Attachment 2

The Grafton Rinsewater Pretreatment Plant (GRPP) was designed for a flow rate of 167,000 gallons per day (gpd). Recent actual daily flow rates can vary from 40,000 to 100,000 gallons per day. The plant operates primarily to remove fluorides from the influent and secondarily metal is removed. The treatment plant consists of two equalization basins (T-101, T-102), a pH adjustment and chemical addition tank (T-103), a flocculator/clarifier (T-104), and a pH tank (T-105). The sludge from the clarifier is pumped to the sludge thickener tank (T-109) and then is pressed in a filter press. The supernatant from the thickener tank and the water from the filter press are reintroduced to the equalization tanks.

Aluminum Chloride, sodium hydroxide and sulfuric acid are added to tank T-103 to form aluminum hydroxide for the purpose of co-precipitating fluorides. The pH in tank T-103 is adjusted to 6.0-6.5 S.U. Polymer (flocculant) is added into the flocculator portion of the flocculator/clarifier to optimize floc settling.

If the pH in tank T-105 is below 6.0 S.U. or above 8.5 S.U., the wastewater is pumped to two 171,400 gallon diversion tanks. The wastewater pre-treatment plant operator can manually divert the wastewater to the two 171,400 gallon diversion tanks in the event of a system malfunction. The diverted wastewater is reintroduced to the equalization tanks at a controlled rate for additional treatment. The layout of the GRPP is attached as Figure 1.

Grafton Rinsewater Pretreatment Plant Layout
Figure 1